

CLAIMS

What is claimed is:

- 5 1. A differential amplifier, comprising:  
a pair of transistors;  
first transformer that is arranged to provide a  
pair of mutually coupled inductors for the  
transistors.
- 10 2. The differential amplifier of claim 1, wherein  
the mutually coupled inductors are arranged to bias  
the transistors.
- 15 3. The differential amplifier of claim 1, wherein  
the mutually coupled inductors are arranged to  
provide output impedance matching for the  
differential amplifier.
- 20 4. The differential amplifier of claim 1, wherein  
the mutually coupled inductors are arranged to  
provide input impedance matching for the differential  
amplifier.
- 25 5. The differential amplifier of claim 1, wherein  
the mutually coupled inductors are arranged to  
provide noise control for the differential amplifier.
- 30 6. The differential amplifier of claim 1, wherein  
the mutually coupled inductors are arranged to  
increase common mode rejection in the differential  
amplifier.

7. The differential amplifier of claim 1, wherein the first transformer is coupled in series with a source of each transistor.

5 8. The differential amplifier of claim 1, wherein the first transformer is coupled in series with a first terminal of each transistor.

9. The differential amplifier of claim 8, further  
10 comprising a second transformer that is coupled in series with a second terminal of each transistor.

10. The differential amplifier of claim 9, wherein the mutually coupled inductors of the first  
15 transformer are arranged to bias the transistors and to provide output impedance matching and wherein the mutually coupled inductors of the second transformer are arranged to bias the transistors and to provide input impedance matching and noise control.

20 11. A method for providing a differential amplifier, comprising the step of coupling a pair of mutually coupled inductors of a first transformer to a pair of transistors of the differential amplifier.

25 12. The method of claim 11, wherein the step of coupling a pair of mutually coupled inductors comprises the step of arranging the mutually coupled inductors to bias the transistors.

30 13. The method of claim 11, wherein the step of coupling a pair of mutually coupled inductors comprises the step of arranging the mutually coupled

inductors to provide output impedance matching for the differential amplifier.

14. The method of claim 11, wherein the step of  
5 coupling a pair of mutually coupled inductors  
comprises the step of arranging the mutually coupled  
inductors to provide input impedance matching for the  
differential amplifier.

10 15. The method of claim 11, wherein the step of  
coupling a pair of mutually coupled inductors  
comprises the step of arranging the mutually coupled  
inductors to provide noise control for the  
differential amplifier.

15 16. The method of claim 11, wherein the step of  
coupling a pair of mutually coupled inductors  
comprises the step of arranging the mutually coupled  
inductors to increase common mode rejection in the  
20 differential amplifier.

17. The method of claim 11, wherein the step of  
coupling a pair of mutually coupled inductors  
comprises the step of coupling the first transformer  
25 in series with a source of each transistor.

18. The method of claim 11, wherein the step of  
coupling a pair of mutually coupled inductors  
comprises the step of coupling the first transformer  
30 in series with a first terminal of each transistor.

19. The method of claim 18, further comprising the  
step of coupling a second transformer in series with

a second terminal of each transistor.

20. The differential amplifier of claim 19, wherein  
the mutually coupled inductors of the first  
5 transformer are arranged to bias the transistors and  
to provide output impedance matching and wherein the  
mutually coupled inductors of the second transformer  
are arranged to bias the transistors and to provide  
input impedance matching and noise control.